INTERAGENCY AGREEMENT
Between
WASHINGTON STATE PARKS AND RECREATION COMMISSION
And
JEFFERSON COUNTY PUBLIC HEALTH – ENVIRONMENTAL HEALTH

AGREEMENT# IA 709-024

THIS AGREEMENT is made and entered into by and between the Washington State Parks and Recreation Commission, hereinafter referred to as "PARKS," and Jefferson County Public Health Department, Environmental Health Program, hereinafter referred to as the "CONTRACTOR".

IT IS THE PURPOSE OF THIS AGREEMENT to provide the professional expertise that does not exist within the limited staff availability of PARKS and that the CONTRACTOR can perform on a mutually beneficial basis.

THEREFORE, IT IS MUTUALLY AGREED THAT:

STATEMENT OF WORK

The CONTRACTOR shall furnish the necessary personnel, equipment, material, and/or services and otherwise do all things necessary for or incidental to the performance of the work set forth below:

GOALS AND OBJECTIVES

The goals of Jefferson County Public Health's (JCPH) trophic state monitoring activities are to:

1. Protect the health and safety of recreational users of Jefferson County lakes;
2. Determine the degree to which beneficial uses of the lake are being supported;
3. Support the goal and objectives of Water Quality Program;
4. Fill the gap between water quality problem identification and pollution source correction; and

These goals will be achieved through the following objectives:

1. To adequately monitor selected lakes for parameters of concern;
2. To inform and educate the public regarding public health and safety issues related to lake eutrophication;
3. To identify lakes with eutrophication related concerns and properly rank them for future source investigation and correction; and

GENERAL DESIGN

1 Monitoring Station Locations

In order to address the needs specified above, trophic state monitoring may include the following lakes:

- Anderson
- Leland
- Gibbs

Due to program constraints, JCPH cannot monitor all of the lakes listed above at the same time. Only Anderson Lake will be monitored in 2008 for State Parks. Once the evaluation of Anderson Lake group is complete, monitoring will begin on the other two lakes as funding is acquired.

Sampling stations were selected based on principles established in the State Department of Ecology's Draft "Lake Water Quality Assessment Program Quality Assurance Program Plan". (Hallock, 1995). All sampling stations were located in the deepest portion(s) of the lake. Two sampling stations were established for Anderson Lake due to the need for additional data.

2 Monitoring Schedule

Four monitoring events in 2008 (Spring, Summer, Fall, Winter) will be conducted to provide an estimate of trophic state. One composite sample from the epilimnion is collected from the deepest portion(s) of the lake. If the lake is stratified, one composite sample from the hypolimnion is collected for nutrients.

3 Parameters and Analytical Information

Lake water samples are collected and analyzed for the parameters listed below:

CONVENTIONAL	***OTHER (EUTROPHICATION RELATED)***
Turbidity	Chlorophyll a
Temperature	Total Phosphorous
Dissolved oxygen	Orthophosphate
pH	Total Nitrogen
Conductivity	Ammonia - Nitrogen
Total Dissolved Solids	Nitrate - Nitrite (NO-2 + NO-3)
Fecal Coliform Bacteria	Algal cell analysis
Secchi Disk Depth	Calcium

EQUIPMENT AND SUPPLIES

Standard and specialized field and laboratory equipment necessary to conduct lake trophic state assessments.

FIELD PROCEDURES

To meet quality control objectives, the following procedures must be followed in the order presented:

1 Locating Sampling Station(s)

To locate the sampling stations, refer to GPS data. After locating the sampling station, carefully lower the anchor so as not to stir up sediments. Record anchor depth.

2 Procedure for determining water transparency using La Motte secchi disk

The rope connected to the secchi disk is marked in meters (black) and half meters (red).

To determine water transparency:

- Using view tube, lower the secchi disk until not visible.
- Pull up the secchi disk until the sections are visible.
- Place thumb and forefinger on rope where it meets the water.
- Pull secchi disk up and take measurement. Record in the data book.
- To check the accuracy of your measurement, have your field partner take a second measurement and record in the data book.
- An arithmetic mean of the two measurements is reported.

3 Collecting Lake Profile Data

The Carlson method for estimating trophic state relies on a representative sample from the epilimnion. To determine whether the lake is stratified (i.e., warm water epilimnion and cold water hypolimnion separated by a thermocline) lake profile data is collected. To complete the lake profile:

- Attach metered rope from secchi disk to Hydrolab Multiprobe.
- Lower Hydrolab to 1 meter and record all measurements in the data book.
- Collect Hydrolab measurements every meter. Measurements may be collected at each one-half meter interval in shallow lakes (less than 15 feet deep). Remember to keep all equipment at least 1 meter from the bottom to avoid disturbing the sediments.

If a thermocline exists, it will typically be indicated by a very noticeable drop in temperature (i.e., 2 to 3 degrees Celsius) and a rapid decrease in dissolved oxygen (i.e., 3 to 4 mg/L).

4 Collection and Analysis of Lake Water Samples for Trophic State Indicators

Water samples for trophic state indicator analysis are collected according to protocols established in Hallock (1995).

Select sampling depths that are representative of the epilimnion (or hypolimnion if present) and record in the data book. Using a Wildco Instruments "horizontal bottle", a "3 point" composite sample of the epilimnion is collected at each station. To collect the three point composite:

- Set "plungers" and close yellow vent plug.
- Lower bottle to desired depth and allow at least 1 minute for acclimation.
- Send "torpedo", listen for "click", and pull bottle up.
- Holding bottle vertically, open yellow vent plug and push in black button, which surrounds sample faucet. Drain for about 15 seconds.
- Holding bottle vertical, gently lift top plunger to release vacuum (i.e., increase flow out of faucet).
- Collect Chlorophyll a sample first and the nutrient sample second. Be sure not to touch bottle to the faucet.
- Repeat process at successive depths.
- Ensure that *Chlorophyll a* samples are fixed with 1ml magnesium carbonate and place bottles in cooler at 4°C.

If the lake is stratified and a hypolimnion exists, a three-point composite of the hypolimnion may also be collected. The reason for sampling the hypolimnion is to provide a general assessment of the internal loading of phosphorous in the lake. However if the thermocline is less than 2 meters from the bottom, it may not be possible to collect a composite sample from the hypolimnion.

5 Collection and Identification of Aquatic Weeds (Macrophytes)

The Carlson method requires an estimate of the type and relative abundance of aquatic macrophytes in the lake. In lieu of an expensive and time consuming aquatic weed survey, representative stations have been identified in each lake and

are sampled for aquatic macrophytes.

In addition to recording visual observations, macrophyte samples are collected using a specially modified and weighted rake. At least three separate samples are collected from each station and samples are packaged in a Ziploc bag and stored in cooler at 4°C. Samples are refrigerated (up to three days) until pressing and mounting.

Macrophytes should be pressed as soon as possible after collection. Pressing and mounting should be done according to instructions provided. After all samples have been pressed and mounted, they are sent for identification to:

Jenifer Parsons
Department of Ecology
15 West Yakima Ave -- Suite 200
Yakima, WA 98902-3452

QUALITY CONTROL SUMMARY

1 Field Quality Control

Training is based on Hallock (1995). Field quality control is also based on JCPH "Water Quality Trend Monitoring Plan, Streams and Marine Waters" (2001) and "*Draft* Swimming Beach Monitoring Plan (2001).

Field quality control generally consists of the following:

- Regular calibration and maintenance of Hydrolab Multiprobe H20;
- To avoid cross contamination, Wildco Instruments horizontal bottle is thoroughly cleaned with isopropyl alcohol after each monitoring event. Additionally, the bottle is thoroughly rinsed in lake water before each sample collection.
- Duplicate samples are utilized.

2 Laboratory Quality Control

Laboratory quality control consists of the following:

- Routine laboratory quality control procedures (such as matrix spike and duplicate) are performed by Aquatic Research, Inc., our contract laboratory for this project.
  Aquatic Research, Inc. is accredited by the Washington State Department of Ecology's Environmental Investigations and Laboratory Services - Quality Assurance Section.
- The Health District's Laboratory is certified by the Washington State Department of Ecology's Environmental Investigations and Laboratory Services Program

3 Sample Preservation and Container Transport and Delivery

Sample preservation, transport, and delivery is accomplished with strict adherence to protocols set forth in "Recommended Protocols for Measuring Selected Environmental Variables in Puget Sound" (Puget Sound Estuary Program, 1997).

TROPHIC STATE MONITORING DATA ASSESSMENT AND REPORTING

The trophic status of each of these lakes is based primarily on Carlson's (1977) trophic state indices. Based on algal biomass, this approach uses a scale of 0 - 110. Trophic state indices are calculated from Secchi disk depth, chlorophyll a and total phosphorous concentrations (all of which are highly correlated with transparency).
The equations are as follows:

- TSI = 60 - {ln Secchi disk depth (m)}
- TSI = 9.81 {ln Chl a (mg/m^3)} + 30.6
- TSI = 14.42 {ln TP (mg/m^3)} + 4.15

Generally, TSI values below 40 indicate oligotrophic conditions; TSI values between 40 and 50 are often associated with mesotrophy; and values above 50 are indicative of eutrophic conditions. Classifications of oligo-mesotrophic and meso-eutrophic can be used for lakes which are judged to be in-between these stages. (Rector, Hallock, 1994).

Before calculating TSI values, it is important to assess non-phosphorous limitation because the TSI relationships assume that algal productivity is phosphorous limited. Therefore, total nitrogen to total phosphorous ratios (TN:TP) must be calculated for each station. A lake is classified as phosphorous limited if the TN:TP ratio is >17 Hallock (1995).

Although JCPH collects Secchi data, it is not used as a critical variable in our trophic classification. A minimum of five observations separated by at least two weeks is required for Secchi data to be used as a critical variable in the trophic state analysis Hallock (1995). Due to limited resources, it is not practical to gather Secchi data at this frequency. In addition to trophic state indices, a qualitative assessment of the types and relative abundance of aquatic macrophytes and dissolved oxygen concentrations is used in the estimation of trophic state.

PERIOD OF PERFORMANCE

Subject to its other provisions, the period of performance of this Agreement shall commence on the date signed by PARKS, and al deliverables to be completed no later than December 1, 2008, unless terminated sooner as provided herein. Agreement shall automatically expire on June 30, 2009, unless otherwise extended by amendment.

PAYMENT

Compensation for the work provided in accordance with this agreement has been established under the terms of RCW 39.34.130. The parties have estimated that the cost of accomplishing the work herein will not exceed **Four Thousand, Four Hundred Two, and 60/100ths Dollars ($4,402.60)**. Payment for satisfactory performance of the work shall not exceed this amount unless the parties mutually agree to a higher amount prior to the commencement of any work which will cause the maximum payment to be exceeded. Compensation for services shall be based on the following budget:

Staff	1 staff @ $62/hour for 6 hours @ 4 events	**$1,488.00**
Analysis	All parameters @ 4 events	**$2,500.00**
Travel	22 miles roundtrip @ 4 events@ 0.485/mile	**$42.60**
Overhead	$1488 X 25%	**$372.00**

	TOTAL	**$4,402.60**

BILLING PROCEDURE

The CONTRACTOR shall submit invoices no more often than monthly. Payment to the CONTRACTOR for approved and completed work will be made by warrant or account transfer by PARKS within 30 days of receipt of the invoice. Upon expiration of the contract, any claim for payment not already made shall be submitted within 30 days after the expiration date or the end of the fiscal year, whichever is earlier.

RECORDS MAINTENANCE

The parties to this contract shall each maintain books, records, documents and other evidence which sufficiently and properly reflect all direct and indirect costs expended by either party in the performance of the services described herein. These records shall be subject to inspection, review or audit by personnel of both parties, other personnel duly authorized by either party, the Office of the State Auditor, and federal officials so authorized by law. All books, records, documents, and other material relevant to this Agreement will be retained for six years after expiration and the Office of the State Auditor, federal auditors, and any persons duly authorized by the parties shall have full access and the right to examine any of these materials during this period.

Records and other documents, in any medium, furnished by one party to this agreement to the other party, will remain the property of the furnishing party, unless otherwise agreed. The receiving party will not disclose or make available this material to any third parties without first giving notice to the furnishing party and giving it a reasonable opportunity to respond. Each party will utilize reasonable security procedures and protections to assure that records and documents provided by the other party are not erroneously disclosed to third parties.

RIGHTS IN DATA

Unless otherwise provided, data which originates from this Agreement shall be "works for hire" as defined by the U.S. Copyright Act of 1976 and shall be owned by PARKS. Data shall include, but not be limited to, reports, documents, pamphlets, advertisements, books magazines, surveys, studies, computer programs, films, tapes, and/or sound reproductions. Ownership includes the right to copyright, patent, register, and the ability to transfer these rights.

INDEPENDENT CAPACITY

The employees or agents of each party who are engaged in the performance of this Agreement shall continue to be employees or agents of that party and shall not be considered for any purpose to be employees or agents of the other party.

AGREEMENT ALTERATIONS AND AMENDMENTS

This agreement may be amended by mutual agreement of the parties. Such amendments shall not be binding unless they are in writing and signed by personnel authorized to bind each of the parties.

TERMINATION

Either party may terminate this Agreement upon 30 days' prior written notification to the other party. If this Agreement is so terminated, the parties shall be liable only for performance rendered or costs incurred in accordance with the terms of this Agreement prior to the effective date of termination.

TERMINATION FOR CAUSE

If for any cause, either party does not fulfill in a timely and proper manner its obligations under this Agreement, or if either party violates any of these terms and conditions, the aggrieved party will give the other party written notice of such failure or violation. The responsible party will be given the opportunity to correct the violation or failure within 15 working days. If failure or violation is not corrected, this Agreement may be terminated immediately by written notice of the aggrieved party to the other.

DISPUTES

In the event that a dispute arises under this Agreement, it shall be determined by a Dispute Board in the following manner: Each party to this agreement shall appoint one member to the Dispute Board. The members so appointed shall jointly appoint an additional member to the Dispute Board. The Dispute Board shall review the facts, contract terms and applicable statutes and rules and make a determination of the dispute. The determination of the Dispute Board shall be final and binding on the parties hereto. As an alternative to this process, either of the parties may request intervention by the Governor, as provided by RCW 43.17.330, in which event the Governor's process will control.

GOVERNANCE

This contract is entered into pursuant to and under the authority granted by the laws of the state of Washington and any applicable federal laws. The provisions of this agreement shall be construed to conform to those laws.

In the event of an inconsistency in the terms of this Agreement, or between its terms and any applicable statute or rule, the inconsistency shall be resolved by giving precedence in the following order:

a. applicable state and federal statutes and rules;

b. statement of work; and

c. any other provisions of the agreement, including materials incorporated by reference.

ASSIGNMENT

The work to be provided under this Agreement, and any claim arising thereunder, is not assignable or delegable by either party in whole or in part, without the express prior written consent of the other party, which consent shall not be unreasonably withheld.

WAIVER

A failure by either party to exercise its rights under this agreement shall not preclude that party from subsequent exercise of such rights and shall not constitute a waiver of any other rights under this Agreement unless stated to be such in a writing signed by an authorized representative of the party and attached to the original Agreement.

SEVERABILITY

If any provision of this Agreement or any provision of any document incorporated by reference shall be held invalid, such invalidity shall not affect the other provisions of this Agreement which can be given effect without the invalid provision, if such remainder conforms to the requirements of applicable law and the fundamental purpose of this agreement, and to this end the provisions of this Agreement are declared to be severable.

ALL WRITINGS CONTAINED HEREIN

This Agreement contains all the terms and conditions agreed upon by the parties. No other understandings, oral or otherwise, regarding the subject matter of this Agreement shall be deemed to exist or to bind any of the parties hereto.

PROJECT MANAGEMENT

The project representative for each of the parties shall be responsible for and shall be the contact person for all communications and billings regarding the performance of this Agreement.

The Project Representative for CONTRACTOR is: Mike McNickle, Director, Environmental Health

The Project Representative for PARKS is: Rob Fimbel, Chief, Resources Stewardship

IN WITNESS WHEREOF, the parties have executed this Agreement.

Washington State Parks and Recreation Commission	**Jefferson County Public Health Environmental Health**
By: _____	By: _____
Title: Assistant Director, WSPRC	Title: _____
Date: _____	Date: _____

Approved As To Form:
Mark Schumock
Asst. Attorney General
02/20/05